Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:	)	
	)	MM Docket No. 99-325
Digital Audio Broadcasting Systems	)	
And Their Impact on the Terrestrial	)	
Radio Broadcast Service	)	

Comments of Reunion Broadcasting L.L.C.

The following comments are filed on behalf of Reunion Broadcasting L.L.C. ("Reunion") in response to the Commission's Further Notice of Proposed Rulemaking and Notice of Inquiry in the above captioned matter. Reunion is the licensee of several AM stations and is actively involved in the expansion and development of AM facilities.

Nighttime AM IBOC Operation

Reunion supports the rapid introduction of spectrum efficient digital broadcasting on the AM band. However, the introduction of hybrid analog/digital systems on this band during the nighttime should be permitted only pursuant to a showing that the hybrid facilities will not create additional interference to existing stations.

Since the issuance of the Commission's interim order in this matter, deployment of AM digital operation has been slow. Figures published by Ibiquity indicate that approximately 30 AM stations are operating with the digital hybrid system .[1] Recently published reports indicate that some stations have turned off their daytime IBOC signals out of concern for interference to adjacent channels.[2] Uncertainty regarding the real world performance of the hybrid IBOC

[1] See, www.ibiquity.com; see also, *Ibiquity Publishes HD Radio List*, Radio World, May 19, 2004, pp.17-19.
[2] See, *Antenna, Power Issues Emerge for AM IBOC*, Radio World, May 19, 2004, page 14.

system within the Commission's current allocation scheme and occupied bandwidth rules, together with the lack of night time operation has chilled the deployment of AM digital systems.[3]

Part of the uncertainty stems from the attempt to apply Commission rules developed for the stations transmitting an amplitude modulated signal to transmission modes not in existence at the time the rules were written. In particular, the emission limits specified in 47 CFR 73.44 will yield unanticipated results if applied to any transmission method other than amplitude modulation. There is a significant energy difference between the occasional analog peaks that section 73.44 contemplated when drafted and digital carriers occupying the same bandwidth.

Fortunately, the power represented by these adjacent channel digital carriers is capable of being calculated with certainty. It is also possible to conduct a RSS analysis of these adjacent channel signals to determine if the insertion of these adjacent channel carriers will fit the Commission's allocation scheme.[4] If it is determined that the adjacent channel energy created by use of the hybrid analog/digital system will enter the night limit of a station operating on that adjacent channel, the station proposing digital operation should be required to reduce power in the digital sidebands until the signal fits within the existing protection requirements.

Reunion believes this approach would permit the introduction of digital nighttime operation in an orderly fashion. The NAB has filed a proposal, which recommends that the Commission permit nighttime digital operation for all stations currently authorized for nighttime

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[3] The Commission's present allocation scheme is based upon a significant amount of data compiled over the years from many listening tests. Since 1992, the Commission has required AM stations seeking to change their nighttime facilities to reduce their existing RSS contribution by 10% if they are a contributor to the 50% night limit exclusion. Further, due to rule changes over time, significant daytime AM adjacent channel overlaps exist in many parts of the U.S. These areas of "grandfathered interference" and the existing Commission rules that require a reduction in nighttime interference, introduce yet more elements of uncertainty into how IBOC can co-exist with licensed analog operations.

[4] For instance, a 50 kW station operating in the hybrid mode with digital carriers –25 dB down from the main carrier will produce adjacent channel signals at 160 watts. At –28 dB, the power of the digital carrier is approximately 80 watts.

broadcasts without prior Commission authorization. The proposal also asks the Commission to resolve cases of "unexpected interference" on a case by case basis.[5] This "do it now, fix it later" approach simply increases the uncertainty for each broadcaster seeking to move forward with digital broadcasting. It is questionable whether a broadcaster seeking to maximize its service to the public would invest the capital necessary to convert to a hybrid digital operation if the possibility exists that the operation might be limited or diminished because of interference given to adjacent channel stations. This is simply not an issue for which a "trial and error" approach is appropriate. Further, without rules specifically crafted for application to a hybrid analog/digital system, the Commission is placed in the awkward position of applying a subjective standard when attempting to determine what actually constitutes "unanticipated interference."

The NAB proposal and Ibiquity's AM Nighttime Compatibility Study[6] indicate that interference can be expected outside of a station's Night Interference Free (NIF) limit. In practice, the usable nighttime signal of a station operating in the analog mode extends well beyond the NIF contour. Many stations, especially those licensed to suburban cities in a metropolitan area have substantial portions of their nighttime audience outside of their NIF. The public interest is not served by an unrestrained increase in interference that reduces the number of voices available to the listening public.

In its initial order authorizing interim IBOC operations, the Commission agreed with the NRSC, that due to the lack of nighttime test results, significant uncertainty remained with respect to the potential for first adjacent channel interference during nighttime skywave propagation

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[5] Recommendations of the National Association of Broadcasters, dated March 5, 2004.

[6] *AM Nighttime Compatibility Study Report*, Ibiquity Digital Corporation, dated May 23, 2003*; Field Report-AM IBOC Nighttime Performance, October 20, 2003; Field Report-AM IBOC Nighttime Compatibility*, October 31, 2003.

conditions.[7] The subsequent studies conducted by Ibiquity have confirmed the potential for significant nighttime interference. As a result, the uncertainty surrounding the practical impact of IBOC operation at night still exists.

To eliminate this uncertainty, Reunion encourages the Commission to adopt an interim policy permitting hybrid analog/digital operation upon a showing by the applicant that the proposed operation, when examined on the basis of the main channel and each adjacent channel carrier, will not increase nighttime interference for either the main or adjacent channels.

Improvement of the IBOC Standard

The Commission has chosen in-band-on-channel technology as the route for introducing digital operation on the AM and FM bands. The present IBOC system proposed by Ibiquity at the current state of development and power levels is not spectrum efficient. Ibiquity's studies indicate that adjacent channel interference will result. These interference limitations are not necessarily representative of digital broadcasting as a whole or other hybrid systems that may be developed. In this age of software driven receivers there is no need to adopt any particular transmission method when a receiver can be easily shifted to another mode using present or upgraded software . Reunion would urge the Commission to adopt rules, which will permit innovation and further development of in-band-on-channel techniques, whether those techniques are developed by Ibiquity or are developed by any other party.

Respectfully submitted,

Reunion Broadcasting L.L.C.
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[7] *Digital Broadcasting Systems and their Impact on the Terrestrial Broadcast Service*, 17 FCC Rcd 19990, 20004 (2002) , at paragraphs 19-21.